CW#91: Solving Right Triangles Pt. II

Geometry

Classroom Copy- DO NOT WRITE ON!

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| Objective | * You will be able to describe what it means to solve a right triangle. * You will be able to determine when to use a trig ratio and when to use inverse trig based on the information given. |
| Essential Question | * In a right triangle, how can you find all the sides and all the angles of the triangle? |
| Criteria for Success | Did you…   * Correctly identify the sides (opposite, adjacent, hypotenuse)? * Use the correct trig ratio? * Analyze your answer: Does it make sense? Did you answer the question completely? |

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| VOCAB Copy into notebook and complete:   To solve a right triangle means to find the measures of all its \_\_\_?\_\_ and \_\_\_?\_\_\_\_ . | | | |
| WRITING *Explain* when to use a trigonometric ratio to find a side length of a right triangle and when to use the Pythagorean Theorem.   |  | | --- | |  | |  | | | | |
| 1. ../../../../../Desktop/Screen%20Shot%202016-02-20%20at%204.05.20%20PM | 2. ../../../../../Desktop/Screen%20Shot%202016-02-20%20at%204.05.23%20PM | | 3. ../../../../../Desktop/Screen%20Shot%202016-02-20%20at%204.05.27%20PM |
| 4. ../../../../../Desktop/Screen%20Shot%202016-02-20%20at%204.05.30%20PM | | 5. ../../../../../Desktop/Screen%20Shot%202016-02-20%20at%204.05.33%20PM | |

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| 6. MULTIPLE CHOICE Which additional information would *not* be enough to solve Δ*PRQ*?  ../../../../../Desktop/Screen%20Shot%202016-02-20%20at%204.05.48%20PM   1. *m*∠*P* and *PR* 2. m∠*P* and m∠*R* 3. PQ and PR 4. m∠*P* and PQ | |
| 7. WRITING *Explain* why it is incorrect to say that .   |  | | --- | |  | |  | |  | |  | |  | | 8. CHALLANGE The perimeter of rectangle *ABCD* is 16 centimeters, and the ratio of its width to its length is 1:3. Segment *BD* divides the rectangle into two congruent riangles. Find the side lengths and measure of one of these triangles. (*hint: What can you do to make this problem more accessible?*) |
| 9. SHORT RESPONSE You are standing on a footbirdge ina city park that is 12 feet high above a pond. You look down and see a duck in the water 7 feet away from the footbridge. What is the angle between where you look to see the duck and the height of the footbridge? *Explain* your reasoning.  ../../../../../Desktop/Screen%20Shot%202016-02-20%20at%204.10.46%20PM | 10. In order to unload clay easily, the body of a dump truck must be elevated to at least 55°. If the body of the drump truck is 14 feet long and has been raised 10 feet, will the clay pour out easily? *Explain* your reasoning. |
| 11. You are standing on a plateau that is 800 ft. above a basin where you see two hikers.  a. If the angle of depression from your line of sight to the hiker at *B* is 25°, how far is the hiker from the base of the plateau?  b. If the angle of depression from your line of sight to the hiker at *C* is 15°, how far is the hiker from the base of the plateau?  ../../../../../Desktop/Screen%20Shot%202016-02-20%20at%204.07.25%20PMc. How far apart are the two hikers? Explain. | |